

Appl. No. 10/576,070  
Amdt dated February 8, 2008  
Reply to Office action of November 9, 2007

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application.

### **Listing of Claims:**

Claims 1-10. **(Canceled)**

11. **(Currently amended)** In a fuel injector for a common rail injection system for injecting fuel into a combustion chamber of an internal combustion engine, the injector having an injector body, a nozzle body, a multi-part ~~an~~ injection valve member having an inner needle part ~~and an outer needle part~~ ~~embodied in multiple parts is~~ received in the nozzle body, a piezoelectric actuator, a hydraulic booster assembly connected downstream of the piezoelectric actuator, and first and second control chambers ~~chamber~~ associated with the ~~multi-part~~ injection valve member for actuating the valve member, the improvement wherein the hydraulic booster assembly actuated by the piezoelectric actuator comprises ~~first and second booster chambers which are each directly connected hydraulically with separate control chambers that actuate the needle parts of the injection valve member~~  
a first booster chamber (13) hydraulically connected to second control chamber (20) that actuates the outer needle part (22), and a second booster chamber (17) hydraulically connected to the first control chamber (19) that actuates the inner needle part.

12. **(Previously presented)** The fuel injector as recited in claim 11, wherein the first booster chamber communicates with a second control chamber for the outer needle part via a conduit, and the second booster chamber communicates with a first control chamber for the inner needle part.
13. **(Previously presented)** The fuel injector as recited in claim 11, further comprising a pressure chamber embodied between the needle parts guided one inside the other, of the multi-part injection valve member, which pressure chamber can be filled from a nozzle chamber surrounding the multi-part injection valve member.
14. **(Previously presented)** The fuel injector as recited in claim 11, further comprising a first and a second pressure step on the outer needle part and acting in the opening direction.
15. **(Previously presented)** The fuel injector as recited in claim 13, further comprising a first and a second pressure step on the outer needle part and acting in the opening direction, the second pressure step being embodied in said pressure chamber.
16. **(Previously presented)** The fuel injector as recited in claim 11, further comprising a pressure step embodied on the inner needle part, on the end thereof toward the combustion chamber, the hydraulic area of said pressure step on the inner needle part being operative in the

Appl. No. 10/576,070  
Amdt dated February 8, 2008  
Reply to Office action of November 9, 2007

opening direction of the inner needle part being less than the hydraulically operative areas of the first and second pressure steps of the outer needle part.

17. **(Previously presented)** The fuel injector as recited in claim 11, wherein the hydraulically operative areas, in the opening direction, of the pressure steps of the outer needle part exceed the hydraulically operative area on the end toward the combustion chamber of the inner needle part.

18. **(Previously presented)** The fuel injector as recited in claim 11, further comprising a first seat formed on the outer needle part and a second seat formed on the inner needle part, which seats cooperate with a wall of the nozzle body.

19. **(Previously presented)** The fuel injector as recited in claim 11, wherein the piezoelectric actuator is integrated with the fuel inlet.

20. **(Previously presented)** The fuel injector as recited in claim 11, further comprising first injection openings that can be opened or closed by the first seat and second injection openings that can be opened or closed by the second seat, said first and second injection openings being embodied on the nozzle body and opening in the direction of the combustion chamber.

21. **(New)** In a fuel injector for a common rail injection system for injecting fuel into a combustion chamber of an internal combustion engine, the injector having an injector body, a

Appl. No. 10/576,070

Amdt dated February 8, 2008

Reply to Office action of November 9, 2007

nozzle body, a multi-part injection valve member having an inner needle part and an outer needle part received in the nozzle body, a piezoelectric actuator, a hydraulic booster assembly connected downstream of the piezoelectric actuator, and first (19) and second (20) control chambers associated with the injection valve member for actuating the valve member, the improvement wherein the hydraulic booster assembly actuated by the piezoelectric actuator comprises a second booster chamber (17) acts upon a first control chamber (19) for triggering the inner needle part (23), and a first booster chamber (13) acts on a second control chamber (20) for triggering the outer needle part (22).